

IN THE CLAIMS:

- 1-9. (Canceled)
10. (Currently amended) A process for providing a security privilege for a method of a current thread that is currently executing in a run-time environment in a data processing system, the run-time environment having a stack comprising stack frames with stack frame pointers for associated methods, the process comprising the computer-implemented steps of:
- using a thread identifier of the current thread, locating a linked list;
 - searching the linked list for an entry having a stack frame pointer that matches the stack frame pointer of the method, wherein an entry of the linked list is a stack frame extension comprising security privilege information for the method; and
 - retrieving the security privilege information for a matching entry from the linked listed list if a matching entry is found in response to a request to retrieve privileges for the method.
11. (Previously presented) The process of claim 10, wherein the step of locating a linked list further comprises:
- locating the linked list within a stack frame shadow apparatus comprising a plurality of linked lists, each linked list of the plurality of linked lists being associated with a thread.
12. (Previously presented) The process of claim 10 wherein the stack frame extension further comprises the stack frame pointer of the method and validation information.
13. (Previously presented) The process of claim 12 wherein the validation information comprises the name of the method, the signature of the method, and the return address of the method.
14. (Previously presented) The process of claim 10 further comprising:
- adding an entry to the linked list if no matching entries are found in response to a request to enable a privilege for the method.

15. (Previously presented) A process for providing a privilege for a method of a current thread that is currently executing in a run-time environment in a data processing system, the run-time environment having a stack comprising stack frames with stack frame pointers for associated methods, the process comprising the computer-implemented steps of:

- using a thread identifier of the current thread, locating a linked list;
- searching the linked list for an entry having a stack frame pointer that matches the stack frame pointer of the method, wherein an entry of the linked list is a stack frame extension; and
- removing a matching entry from the linked list if a matching entry is found in response to a request to revert a privilege for the method.

16. (Previously presented) A process for providing a privilege for a method of a current thread that is currently executing in a run-time environment in a data processing system, the run-time environment having a stack comprising stack frames with stack frame pointers for associated methods, the process comprising the computer-implemented steps of:

- using a thread identifier of the current thread, locating a linked list;
- searching the linked list for an entry having a stack frame pointer that matches the stack frame pointer of the method, wherein an entry of the linked list is a stack frame extension; and
- retrieving privilege information and validation information for a matching entry from the linked list if a matching entry is found in response to a request to retrieve privileges for the method.

17. (Previously presented) A process for enabling and reverting a privilege for a method of a current thread that is currently executing in a run-time environment in a data processing system, the run-time environment having a stack comprising stack frames with stack frame pointers for associated methods, the process comprising the computer-implemented steps of:

- storing privilege information in a stack frame shadow apparatus to enable a privilege for a method;

querying a stack frame shadow apparatus for privilege information for a method;
and

deleting privilege information in a stack frame shadow apparatus to revert a
privilege for a method.

18. (Currently amended) A data structure on a computer-readable medium for use in a
data processing system, the data structure comprising:

a set of stack frame extensions, wherein a stack frame extension comprises:

a pointer to a stack frame for a method;

a data field for privilege data for the method;

a data field for validation data for the method; and

a linked list of stack frame extension entries, wherein the linked list is identifiable
by a thread identifier; ~~and~~

~~retrieving the privilege data and validation data for a matching entry from the
linked list if a matching entry is found in response to a request to retrieve privileges for
the method.~~

19. (Currently amended) A data processing system for providing a security privilege
for a method of a current thread that is currently executing in a run-time environment in
the data processing system, the run-time environment having a stack comprising stack
frames with stack frame pointers for associated methods, the data processing system
comprising:

locating means for locating a linked list using a thread identifier of the current
thread;

searching means for searching the linked list for an entry having a stack frame
pointer that matches the stack frame pointer of the method, wherein an entry of the linked
list is a stack frame extension comprising security privilege information for the method;
and

retrieving means for retrieving the security privilege information for a matching
entry from the linked list list if a matching entry is found in response to a request to
retrieve privileges for the method.

20. (Previously presented) The data processing system of claim 19 further comprising:

a stack frame shadow apparatus comprising a plurality of linked lists, each linked list of the plurality of linked lists being associated with a thread.

21. (Previously presented) The data processing system of claim 19 wherein the stack frame extension further comprises the stack frame pointer of the method and validation information.

22. (Previously presented) The data processing system of claim 21 wherein the validation information comprises the name of the method, the signature of the method, and the return address of the method.

23. (Previously presented) The data processing system of claim 19 further comprising:

adding means for adding an entry to the linked list if no matching entries are found in response to a request to enable a privilege for the method.

24. (Previously presented) A data processing system for providing a privilege for a method of a current thread that is currently executing in a run-time environment in the data processing system, the run-time environment having a stack comprising stack frames with stack frame pointers for associated methods, the data processing system comprising:

locating means for locating a linked list using a thread identifier of the current thread;

searching means for searching the linked list for an entry having a stack frame pointer that matches the stack frame pointer of the method, wherein an entry of the linked list is a stack frame extension; and

removing means for removing a matching entry from the linked list if a matching entry is found in response to a request to revert a privilege for the method.

25. (Previously presented) A data processing system for providing a privilege for a method of a current thread that is currently executing in a run-time environment in the

data processing system, the run-time environment having a stack comprising stack frames with stack frame pointers for associated methods, the data processing system comprising:

locating means for locating a linked list using a thread identifier of the current thread;

searching means for searching the linked list for an entry having a stack frame pointer that matches the stack frame pointer of the method, wherein an entry of the linked list is a stack frame extension; and

retrieving means for retrieving privilege information and validation information for a matching entry from the linked list if a matching entry is found in response to a request to retrieve privileges for the method.

26. (Currently amended) A computer program product for use in a data processing system for providing a security privilege for a method of a current thread that is currently executing in a run-time environment in the data processing system, the run-time environment having a stack comprising stack frames with stack frame pointers for associated methods, the computer program product comprising:

first instructions for locating a linked list using a thread identifier of the current thread;

second instructions for searching the linked list for an entry having a stack frame pointer that matches the stack frame pointer of the method, wherein an entry of the linked list is a stack frame extension comprising security privilege information for the method; and

third instructions for retrieving the security privilege information for a matching entry from the linked ~~listed~~ list if a matching entry is found in response to a request to retrieve privileges for the method.

27. (Previously presented) The data structure of Claim 18, wherein the privilege data for the method is security privilege data for the method.